In the Claims

The following claims will replace all prior versions and listings, of the claims in the application:

Claims 1-6 (Cancelled)

7. (Original) A fuel cell power system comprising:

a fuel cell which, in operation, converts chemical energy into direct current electrical energy, the fuel cell being defined by a plurality of independently operable fuel cell sub-systems;

a DC bus;

a switching circuit electrically coupled with the fuel cell sub-systems and configured to independently selectively couple the fuel cell sub-systems to the DC bus; and

an energy storage device electrically coupled with the DC bus and configured to be coupled to a load, and wherein the switching circuit selectively electrically couples a selectable number of the fuel cell sub-systems to the DC bus to supply direct current electrical energy to the energy storage device to charge the energy storage device.

8. (Original) A fuel cell power system as claimed in claim 7, and further comprising:

a power conditioner electrically coupled with the DC bus and the electrical charge storage device, and wherein the power conditioner, in operation, receives the direct current electrical energy and produces alternating current.

9. (Original) A fuel cell power system as claimed in claim 8, wherein the energy storage device comprises a battery; an ultra-capacitor; and/or batteries and ultra-capacitors and wherein DC electrical current from the fuel cell is selectively supplied to the battery; ultra-capacitor; and/or batteries and ultra-capacitors, in operation.

10. (Original) A fuel cell power system as claimed in claim 9, and further comprising:

a controller electrically coupled to the energy storage device and which, in operation, determines the charge of the energy storage device, and which is further electrically coupled to the switching circuit, and wherein the controller is configured to cause the switching circuit to couple a selected number of the fuel cell sub-systems to the DC bus to maintain the charge of the energy storage device.

11. (Original) A fuel cell power system as claimed in claim 10, wherein the fuel cell sub-systems are defined by respective fuel cell subracks which can be independently coupled to the DC bus.

12. (Original) A fuel cell power system as claimed in claim 10, wherein the switching circuit selectively electrically couples the fuel cell sub-systems to the DC bus without any intermediate power conditioning or power conversion.

13. (Original) A fuel cell power system as claimed in claim 7, and further comprising an additional fuel cell, and wherein the switching circuit is configured to independently switch the first mentioned fuel cell and the additional fuel cell for coupling to the DC bus.

14. (Original) A fuel cell power system as claimed in claim 7, wherein the fuel cell comprises a fuel cell stack.

Claims 15-23 (Cancelled)

24. (Original) A fuel cell power system comprising:

an inverter having a DC input and having an AC output configured to be coupled to a load;

a battery coupled to the DC input;

a plurality of fuel cell sub-systems; and

circuitry configured to measure the voltage of the battery and selectively couple a selectable number of the fuel cell sub-systems to the battery in response to the measured voltage of the battery.

25. (Original) A fuel cell power system as claimed in claim 24 wherein the fuel cell sub-systems coupled to the battery are coupled to the battery in parallel.

26. (Original) A fuel cell power system as claimed in claim 25 wherein the DC input of the inverter is coupled to the battery in parallel.

27. (Original) A fuel cell power system as claimed in claim 26 wherein the battery has a nominal voltage of at least about 12 volts.

28. (Original) A fuel cell power system as claimed in claim 27 wherein the respective fuel cell sub-systems comprise respective subracks configured to respectively receive a plurality of fuel cell membranes.

29. (Original) A fuel cell power system as claimed in claim 28 and further comprising circuitry configured to prevent one of the subracks from backfeeding another subrack.

30. (Original) In a fuel cell power system including a power conditioning device having a DC input and having an electrical output which is configured to be coupled to a load; an energy storage device coupled to the DC input; a plurality of fuel cell sub-systems; and circuitry configured to measure the voltage of the energy storage device and selectively couple the fuel cell sub-

systems to the energy storage device in response to the measured voltage of the energy storage device, a method comprising:

(a) measuring the voltage of the energy storage device;

(b) determining if the measured voltage is less than a first threshold and, if so, proceeding to step (c) and, if not, proceeding to step (d);

(c) de-coupling all the sub-systems from the energy storage device;

(d) determining if the measured voltage is greater than or equal to a second threshold and, if so, proceeding to step (e) and, if not, proceeding to step (g);

(e) determining if all sub-systems are de-coupled from the energy storage device and, if so, proceeding to step (a) and, if not, proceeding to step (f);

(f) decoupling all of the sub-systems from the energy storage device;

(g) determining if the measured voltage is greater than or equal to a third threshold and, if so, proceeding to step (h) and, if not, proceeding to step (j);

(h) determining if all sub-systems are de-coupled from the energy storage device and, if so, proceeding to step (a) and, if not, proceeding to step (j);

(i) decoupling one of the sub-systems coupled to the energy storage device from the energy storage device;

(j) determining if the measured voltage is greater than or equal to a fourth threshold and, if so, proceeding to step (k) and, if not, proceeding to step (m);

(k) determining if all sub-systems are coupled to the energy storage device and, if so, proceeding to step (a) and, if not, proceeding to step (l);

(l) coupling one of the sub-systems de-coupled from the energy storage device to the energy storage device;

(m) determining if all sub-systems are coupled to the energy storage device and, if so, proceeding to step (a) and, if not, proceeding to step (n); and

(n) coupling all sub-systems to the energy storage device.

31. (Original) A method according to claim 30 wherein the power conditioning device can be turned on and off, the method further comprising turning off the power conditioning device after step (c) and then proceeding to step (a).

Claims 32-38 (Cancelled)

39. (Original) A method comprising:

providing a plurality of independently operable fuel cells which convert chemical energy into direct current electrical energy;

providing an energy storage device;

coupling the energy storage device to a load;

monitoring the voltage of the energy storage device; and

varying the number of the fuel cells coupled to the energy storage device based upon the voltage of the energy storage device.

40. (Original) A method as claimed in claim 39, wherein a switching circuitry varies the number of fuel cells coupled to the energy storage device.

41. (Original) A method as claimed in claim 39, wherein providing an energy storage device comprises providing a battery.

42. (Original) A method as claimed in claim 39, wherein the fuel cells coupled to the energy storage device are coupled by a DC bus.

43. (Original) A method as claimed in claim 39, wherein the energy storage device comprises a battery.

44. (Original) A method as claimed in claim 39, wherein the energy storage device comprises a plurality of batteries.

45. (Original) A method as claimed in claim 39, wherein the energy storage device comprises at least one capacitor.

46. (Original) A method as claimed in claim 39, wherein the energy storage device comprises a capacitor and a battery.

47. (Original) A method as claimed in claim 39, wherein the energy storage device comprises an ultra-capacitor.